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From the
INTERNATIONAL SEARCHING AUTHORITY

REC'D 03 JAN 2005

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PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

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Date of mailing
(day/month/year) 23 DECEMBER 2004 (23.12.2004)

Applicant's or agent's file reference
PPC04SU002

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/KR2004/001768

International filing date (day/month/year)

16 JULY 2004 (16.07.2004)

Priority date(day/month/year)

16 JULY 2003 (16.07.2003)

International Patent Classification (IPC) or both national classification and IPC

IPC7 A61L 15/42

Applicant

HWANG, Hwa-Soo

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.
For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/KR



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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/KR2004/001768

Box No. 1 Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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**WRITTEN OPINION OF THE
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International application No.

PCT/KR2004/001768

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-6	YES
	Claims		NO
Inventive step (IS)	Claims	1-6	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-6	YES
	Claims		NO

2. Citations and explanations :

Reference is made to the following documents from the International Search Report (ISR):

D1: KR 0221640 B
D2: US 6591142 B1
D3: JP 07059867 A
D4: US 6146351 A

1. Novelty

Objective of the present invention is to provide a flexible band(or patch) for therapeutically treating human body with light waves generated from the affected tissues of a patient. The subject matter of claim 1 comprises a flexible base sheet having an adhesives onto a surface thereof, and silver (silver foil, wire, fabric or combination thereof) and optical fibers attached to the other surface of the sheet.

The technical feature of claim 1 is an optical fiber, which is supposed to transmit light waves to the human body serving to emit the light waves such as far infrared rays produced from the neighboring tissues of affected parts of the patients themselves to their own affected parts.

D1 is considered to represent the most relevant state of the art for the present invention with respect to providing a patch for the medical treatment comprising a soft base material, an adhesive part, silver wires etc. However, the patch of D1 comprises a magnetic tapes not an optical fiber. This makes D1 different from the present invention.

Nowhere is disclosed such a technical feature of the present invention in the prior arts including D2-D4. Therefore, the subject matter of claim 1 is believed to be novel, and so are claims 2-6, its dependent claims. Claims 1-6 fulfill the criteria set forth in Article 33(2) PCT.

- continued in supplemental box

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

Box V

2. Inventive step

D2(columns 1 & 2) discloses that the far infrared(FIR) rays emitted from the human body (8 to 13 micron) exhibits the strongest therapeutic effects. The thermal pad of D2 has the properties of emitting radiation in the range of the FIR wavelength similar to that from the human body by comprising polyvinylfluoride (PVF) as a radiation source. It appears that the problem to be solved described in D2 is very similar to that of the present invention. However, the technical solution that D2 chooses is different from that of the present invention as aforementioned: for therapeutic effects, the present invention uses radiation(light waves) emitted from their own bodies of the patients, which is to be transmitted to the target body parts through the optical fiber.

There is neither suggestion nor implication in prior arts leading to the introduction of an optical fiber as a means for transmitting rays generated from human body. Moreover, it is non-obvious to a skilled person in the art to introduce such a feature in the thermal patch. It is thus believed that the present invention involves an inventive step.

Therefore, claims 1-6 fulfill the requirements set forth in Article 33(3) PCT.

3. Industrial applicability

Object of present invention is to provide a band(or patch) for therapeutically treating human body with light waves. Thus, the present invention is industrially applicable meeting the requirements of Article 33(4) PCT.

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